U.S. Fish & Wildlife Service

Sea Otter Declines in Southwest Alaska

A Growing Concern

Background

Though sea otters (*Enhydra lutris*) were once hunted to the brink of extinction for their dense, luxurious fur, their populations rebounded spectacularly following protection in 1911. Of the thirteen isolated populations that remained, eleven grew and re-colonized much of their former range. Perhaps the most dramatic recovery occurred in the Aleutian archipelago; a 1,000 mile-long chain of islands located between the Bering Sea and the North Pacific Ocean. By the mid-1980s, biologists believed that perhaps half of the world's population of sea otters existed in the Aleutians. A 1992 aerial survey indicated that while sea otters had re-colonized the six major island groups in the Aleutians, they had unexpectedly declined by almost 50% in the Rat, Delarof, and Andreanof Islands. Skiff surveys at selected islands in the mid-1990s also documented the ongoing sea otter decline. In 2000, the Service conducted another aerial survey of sea otters throughout the Aleutians. The results indicated that the population had declined by 70% in only 8 years, which prompted the Service to designate sea otters in the Aleutians as a Candidate Species under the Endangered Species Act (ESA). Additional aerial surveys in southwest Alaska conducted in the past year reveal that the geographic extent of the sea otter decline is even broader than previously believed.

Baseline Data

In order to examine sea otter population trends in southwest Alaska, we used survey results from the 1980s and 90s as a baseline for comparison with new data. In 1986, Brueggeman et al. (1988) conducted fixed-wing aerial surveys of sea otters on the north side of the Alaska Peninsula from Unimak Island to Port Heiden, and from Unimak Island to Pavlof Bay on the south side. The survey consisted of north-south strip transects extending from the shoreline to the 70 meter depth contour. In addition, they surveyed the shoreline of the Pavlof and Shumagin Islands. The shoreline of the Alaska Peninsula was also surveyed by helicopter in 1989 from Unimak Island to Cape Douglas (DeGange et al. 1995). This survey was conducted in April and May of 1989 in advance of oil from the *Exxon Valdez*. As part of the same oil spill study, the Kodiak archipelago was also surveyed by helicopter. In 1994, the Service used a new aerial survey method to estimate the sea otter population around Kodiak Island. This technique, developed by the USGS/BRD Alaska Science Center, uses strip transects to sample areas of high and low density sea otter habitat (Bodkin and Udevitz 1995).

Table 1. Southwest Alaska Sea Otter Survey Results, 1986 - 2001.

Location	*Year*	*Count or Estimate*	*Decline*
Aleutian Islands	1992	8,044	
	2000	2,442	70%
North Alaska Peninsula	1986	9,061 - 13,091	
	2000	5,756	36 - 56%
South Alaska Peninsula	1986	15,346 - 17,835	
	2001	1,344	91 - 92%
Kodiak Archipelago	1989	13, 526	
	1994	9,817	
	2001	5,893	56%

Regional Surveys

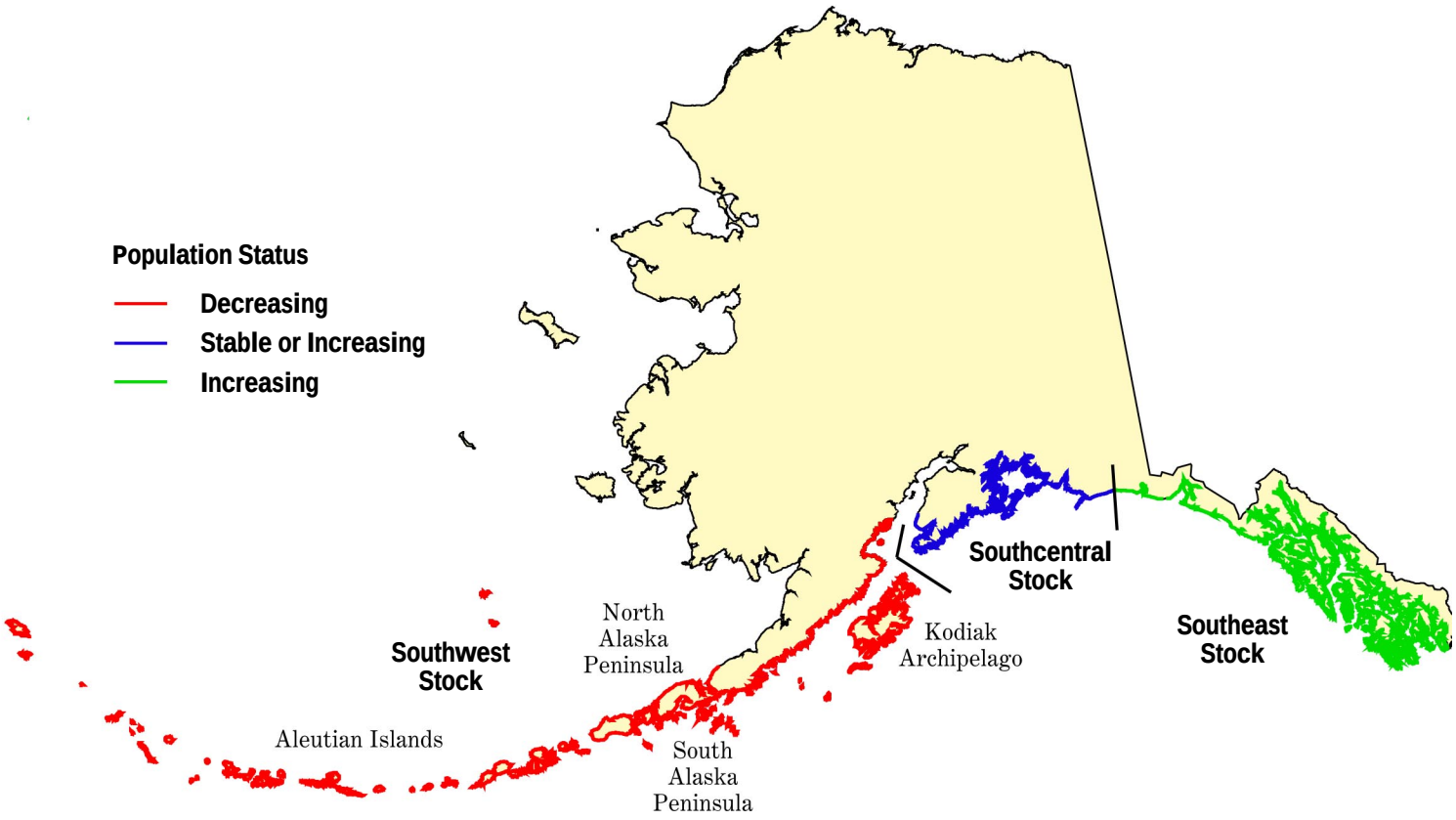
In May 2000 and April 2001 the Service repeated the aerial surveys of Brueggeman et al. (1988) using the same study design, similar aircraft, and experienced observers. The results of these surveys indicate sea otters have declined along both the north and south sides of the Alaska Peninsula. In April and May 2001 the Service also flew the entire shoreline of the Alaska Peninsula from Unimak Island to Cape Douglas for comparison with the 1989 helicopter survey. The results corroborate the decline along the western end of the Peninsula, but also indicate that populations have not declined along the eastern end from Castle Cape to Cape Douglas. In June 2001 we repeated the 1994 aerial survey of the Kodiak archipelago using the same study design, aircraft, pilot, and observer as before, and found that sea otters had declined by 40% over the past 7 years and by 56% since 1989.

Stock Structure

Under the Marine Mammal Protection Act, the Service is required to prepare stock assessments to report on population status and trend, estimate annual human-caused mortality, and describe commercial fishery interactions with marine mammals. Gorbics and Bodkin (2001) identified three stocks of sea otters in Alaska: southwest, southeast, and southcentral. The results of recent aerial surveys clearly indicate that the southwest stock has declined dramatically in the past 10-15 years. The best available scientific information suggests that the southeast stock, which was translocated to that region in the mid-1960s, continues to grow in numbers and expand in range. The southcentral stock, which includes Prince William Sound, has been extensively surveyed over the past decade and is believed to be either stable or increasing in numbers. Using the most recent survey results and correcting for otters not detected by observers, the current best estimate of the Alaska sea otter population size is 74,143 with a 95% confidence interval of ± 15,739.

Management Actions

The dramatic sea otter population decline in southwest Alaska is cause for concern. The Alaska Region has requested funding in Fiscal Year 2002 to prepare a proposed rule to list sea otters in southwest Alaska as threatened or endangered under the ESA. The Service is working with partners to evaluate the impacts of human activity and development on the sea otter, and hopefully prevent further stress on the population. Additional resources will be needed to identify what actions can be taken to address the decline, and to better investigate the cause, which is not definitively known.



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